UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MICHAEL G. TAYLOR

Appeal No. 2005-1940
Application No. 09/697,703

ON BRIEF

Before BARRET, BARRY, and LEVY, Administrative Patent Judges.

LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-23[1].

We REVERSE.

[1] The rejection of claims 19 and 20 have been withdrawn by the examiner (answer, page 16). Accordingly, only claims 1-18 and 21-23 remain before us for decision on appeal.

BACKGROUND

The appellant's invention relates to a polarization mode dispersion (PMD) compensating apparatus (specification, page 1). Claim 1 is representative of the invention, and is reproduced as follows:

Regarding Claim 1.

1. A polarization mode dispersion compensating apparatus, comprising:

a polarization mode dispersion compensator optically coupled to an input port and receiving an input optical signal having polarization mode dispersion and a wavelength dither, said polarization mode dispersion, and an output of said polarization mode dispersion compensator serving as an output of the polarization mode dispersion compensating apparatus;

a polarimeter optically coupled to the output of said polarization mode dispersion compensator and outputting electrical signals representing polarization states of the output of said polarization mode dispersion compensator; and

a controller operatively coupled to said polarimeter and said polarization mode compensator, said controller receiving the electrical signals from said polarimeter, said controller controlling said polarization mode dispersion compensator according to the electrical signal to compensate for the polarization mode dispersion of the input optical signal.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

BULOW	5,793,511	Aug. 11, 1998
FISHMAN	5,930,414	Oct. 10, 2000
CAO	6,130,766	Jul. 27, 1999
BERGANO et al (Bergano)	6,134,033	Oct. 17, 2000

Claims 1-4, 9, 12-16, and 21-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bulow in view of Cao.

Claims 5-8[2], 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bulow in view of Cao and Fishman.

Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bulow in view of Cao and Bergano.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (mailed September 21, 2004) for the examiner's complete reasoning in support of the rejections, and to the brief (filed June 30, 2004) and reply brief (filed November 18, 2004) for the appellant's arguments thereagainst.

Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered. See 37 CFR § 41.37(c)(1)(vii)(eff. Sept. 13, 2004).

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the rejections advanced by

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[2] The examiner inadvertently lists claims 5-9 (answer, page 7).

the examiner, and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

Upon consideration of the record before us, we make the determinations which follow. We begin with the rejection of claims 1-4, 9, 12-16 and 21-23 as being unpatentable over Bulow in view of Cao. Turning to claim 1, we note as background that in rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467(1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d

1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The examiner's position (answer, page 4) is that Bulow fails to specifically teach that the input optical signal has a wavelength dither. To overcome this deficiency of Bulow, the examiner turns to Cao for a teaching of wavelength dithering of an input signal.

Appellant's position (brief, page 14) is that in Bulow, data signal D, which is the output of the apparatus, is electrical. It asserts (brief, page 16) that data signal D, output from equalized

1.2 is not output from polarization controller 1.7. It is argued (id.) that "Bulow cannot be relied upon to teach or suggest the polarization mode compensator where the output of the polarization mode dispersion compensator serves as an output of the polarization mode dispersion compensating apparatus as recited in claims 1 and 12."

In response to the examiner's assertion (answer, page) that D is a derivative of optical signal S, appellants respond (brief, page 17) that the examiner's interpretation is unreasonable. It is further asserted (brief, page 19) that Bulow's output D cannot teach the output as claimed because claim 1 requires that the output is optical, whereas the Bulow's data signal D is electrical. The examiner responds (answer, page 13) that "an optical output is not clearly claimed. Upon close review of the language of claim 1, one will notice that at no time does the applicant claim an optical output of the entire polarization mode dispersion compensating apparatus. In fact, the claim language does not give a clear indication of the composition of the output signal of the polarization mode dispersion compensating apparatus." The examiner further asserts (answer, page 14) that "[i]f the applicant intends the output of the polarization mode dispersion compensating

apparatus to be optical, then as much should be explicitly claimed to distinguish the claimed invention from that of Bulow."

Appellants further assert (brief, page 22) that in claim 1 the polarimeter outputs signals that represent polarization states of an optical signal, whereas signal Q of Bulow represents error rates of an optical signal. The examiner responds (answer, page 14) that the signal Q represents the polarization states of the output of the polarization mode dispersion compensator since the output of the polarization mode dispersion compensator is fed through polarizers 1.4 and 1.5 thereby producing polarization states of the output of the polarization mode dispersion compensator that are then converted to electrical signals S_S+ by detectors 1.8 and 1.9 and fed to equalizing circuit 1.2 where they are converted to signals Y± and Z± and fed to controller 2.5 which produces Q therefrom."

From our review of claim 1, we find that "an output of said polarization mode dispersion compensator serving as an output of the polarization mode dispersion compensating apparatus;." From this language of the claim, we find that the claim requires that an output of the PMD compensator serves as an output of the PMD compensating apparatus. Turning to Bulow, it is clear from Figure 1, that the output of polarization controller 1.7 is not the same

as the output D of the PMD compensating apparatus. we are not persuaded by the fact, as pointed to by the examiner, that (col. 3, lines 4-7) the data signal D from equalizing circuit 1.2 is derived from optical signal S, is sufficient to meet the language of claim 1. the fact that output D is derived from input signal S is not the dame as an output of the PMD compensator serving as an output of the PMD compensating apparatus. The fact that the output D is derived from the input signal S suggests that the output D is not the same as the output from the polarization controller. In addition, as noted by appellant, the output D of Bulow is an electrical signal D which is based upon electrical signals S_- and S_+ (col. 2, lines 58-60). As recited in claim 1, the polarimeter is optically coupled to the output of the PMD compensator. Because the polarimeter is optically coupled to the output of the polarimeter, the output of the polarimeter is an optical signal. Because output D of Bulow is an electrical signal, this limitation of claim 1 is not taught by Bulow. Accordingly, we are not persuaded by the examiner's assertion (answer, page 14) that claim 1 does not recite that the output of the PMD compensating apparatus is optical.

From all of the above, we find that even if we combined the teachings of Bulow and Cao, as advanced by the examiner to provide

the dither the wavelength of the input signal S, that the combined teachings of Bulow and Cao fail to establish a prima facie case of obviousness of claim 1. The rejection of claim 1 under 35 U.S.C. § 103(a) is therefore reversed.

As independent claim 12 also recites that the output of the PMD compensator serves as a output of the PMD compensating apparatus, and that the variable PMD compensator has an optical signal as an output, we reverse the rejection of claim 12 for the same reasons as we reversed the rejection of claim 1. Accordingly, the rejection of claims 1-4, 9, 12-16 and 21-23 under 35 U.S.C. § 103(a) is reversed.

We turn next to the rejection of claims 5-8, 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Bulow in view of Cao and Fishman. We cannot sustain the rejection of claims 5-8, 17 and 18 because Fishman does not make up for the deficiencies of the basic combination of Bulow and Cao. accordingly, the rejection of claims 5-8, 17 and 18 under 35 U.S.C. § 103(a) is reversed.

We turn next to claims 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Bulow in view of Cao and Bergano. We cannot sustain the rejection of claims 10 and 11 because claim 10 includes the PMD compensating apparatus of claim 1 and because Bergano does not make up for the deficiencies of the basic

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-18 and 21-23 under 35 U.S.C. § 103 is reversed.

REVERSED

LEE E. BARRETT
Administrative Patent Judge)

LANCE LEONARD BARRY
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STUART S. LEVY
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